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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/585,162	06/30/2006	Stefan Morgenstern	5038.1030	8326
23280 7590 04/16/2009 Davidson, Davidson & Kappel, LLC 485 7th Avenue 14th Floor New York, NY 10018				
EXAMINER				
PRAGER, JESSE M				
ART UNIT		PAPER NUMBER		
4137				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/585,162

**Applicant(s)**

MORGENSTERN ET AL.

**Examiner**

JESSE PRAGER

**Art Unit**

4137

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 6/30/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 11-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
- Paper No(s)/Mail Date 3/6-30-2006
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

This application is responsive to the preliminary amendment filed 6/30/2006. Claims 1-10 has been cancelled. Claims 11-22 are pending in this application.

Certified copies of the document claiming foreign priority has been received.

#### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 11-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayton et al. (US Patent 6,041,590, herein Hayton) in view of Jourdain et al. (US Patent 5,069,034, herein Jourdain) and in further view of Tanrikut et al. (US Patent 4,361,010, herein Tanrikut).

Hayton discloses a jet pipe liner for a gas turbine engine capable of suspending gas channel elements on a housing of a gas turbine with a plurality of first plate-shaped elements (23) connected to a plurality of second plate shaped elements (28, 29 in Fig. 3). Web elements (22, 24) extend to first and second plate elements forming a crenelated profile extending in a circumferential direction of the housing. In regards to claim 12, first plate elements (23) are connected with the housing of the gas turbine (Fig. 1), and second plate elements are connected to gas channel elements (16). In regards to claim 13, the arrangement of plates is staggered with the second plate-shaped elements (28, 29) being positioned in between two adjacent first plate-shaped elements (23). In regards to

claim 14, the web-like elements (22, 24) have the same width as both the first and second plate elements.

Concerning claim 15, Hayton discloses a closed ring structure containing a "crenclated profile". "Crenclated" according to Merriam-Webster Online Dictionary means "indented, or notched". The profile of the ring structure disclosed in Fig. 2 of Hayton is notched and indented. Concerning claim 16, Hayton discloses of a repeatable ring segment with second plate elements 28, and 29 integrally together, or separate (Fig. 3, and col. 4 line 67- col. 5 line 1). Thus, a ring segment with first and second plate-shaped elements with a web structure in between is positively disclosed by Hayton, since second plate elements are shown to be separate. The ring segments have a crenellated profile with notches and indentations. In regards, to claim 17, these ring segments can be joined together (Fig. 3, detail on right) to form a closed ring.

Concerning claims 19-20, Hayton discloses a first plate element (23) with a bore hole (41), and bolt (26) inserted through said bore holes on a housing side of the first plate-shaped elements connecting the first plate elements to the housing of the turbine (Fig. 5, and Fig.6).

Concerning claim 11, Hayton does not disclose web-elements which extend perpendicularly to first and second plate elements, and web elements with length in the circumferential direction being greater, by a multiple of one, than the width.

Jourdian discloses a heat protective lining for the afterburner or transition duct of a turbojet engine. The lining contains yokes which have the structure of first and second plates connected by web elements (8) with the circumferential direction being greater

than the width. Jourdain uses the yoke structure to secure the tiles to the housing (1). It would have been obvious to a person having ordinary skill in the art to decrease the width of Hayton's liner, as motivated by Jourdain, in order to reduce material and cost of manufacturing the device.

Tanrikut discloses a finwall channel in the circumferential direction in Fig. 5 connecting inner wall (10) with outer wall (12). The finwall channel has first and second plate-shaped elements connected to a perpendicular web element. Modifying the angles in between Hayton's plate-shaped elements to the web element to be perpendicular would have been obvious to a person having ordinary skill in the art because the result is predictable, and the technique was known in the art at the time of the invention.

3. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayton in view of Jourdain, in further view of Tanrikut as applied above to claims 11-17, and in further view of Roth et al. (US Patent 4,832,568, herein Roth).

In regards to claim 18, Hayton discloses of ring segments with the second plate-shaped elements (28, 29) joined or separate. Hayton does not positively recite a structure of four first plate-shaped elements, and three second plate-shaped elements being connected with six web elements. However, the claim terminology uses the phrase that the ring segments which form the ring "includes" four first plate-shaped elements, and three second plate-shaped elements connected with six web elements. Thus, any ring segment that has the above elements and additional elements, and forms a ring applies to claim 18.

Roth discloses of ring segments with three first-plate elements, four second- plate elements, and web elements (Fig. 3). It would have been obvious to one of ordinary skill in the art, knowing that Hayton's design enables the second plate elements to be joined, to make ring segments including at least three first-plate elements, four second- plate elements, and web elements to create a more structurally sound segmented ring that still accommodates for circumferential expansion. The thermal circumferential expansion aspect of the motivation is expressly disclosed by Hayton, while the structurally sound segmented aspect of the guide ring would have been obvious to one of ordinary skill.

4. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayton in view of Jourdain, in further view of Tanrikut as applied above to claims 11-17, 19, and 20, and in further view of Pidcock et al. (US Patent 5,435,139, herein Pidcock).

In Figure 3, Hayton discloses a thermally compliant connection in which the gas channel clips into the second plate-shaped element (32, 34 in Fig. 3 and Col. 5, lines 25-28). In Figure 6, Hayton also discloses a thermally compliant connection of a bolt (46) with a recess extending from the gas channels (16) connecting to the second layer (18). Hayton does not explicitly disclose that the bolt is a projection from the gas channel.

Pidcock discloses a thermally compliant connection with a projection (29), or integral bolt from a gas channel to a plate-shaped element. Modifying the bolt connection of Hayton with having the bolt being a projection from the gas channel would be obvious to one of ordinary skill in the art because it reduces number of elements in the device, and reduces the chances of failure of the bolt connection due to thermal stresses.

5. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayton in view of Jourdain, in further view of Tanrikut as applied above to claims 11-17, 19, and 20, and in further view of Rogers (US Patent Application Publication 2002/0197153).

Hayton discloses thermally compliant connections from the gas channel to the second plate. Rogers discloses a thermally compliant connection with a guide pin (53) for circumferential centering. Applying Roger's thermally compliant circumferential connection which is known to one of ordinary skill in the art would be obvious since replacing one thermally compliant connection that allows for circumferential expansion with another connection would have predictable results. A motivation for doing this would have been to reduce stress on the connection by enable movement in the axial direction. Enabling movement in the axial direction will reduce stresses in Hayton's bolt or clip connection due to high temperatures and warping.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JESSE PRAGER whose telephone number is (571)270-1412. The examiner can normally be reached on Monday-Friday, 8:00 am - 5:00 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jackson can be reached on (571)272-4697. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JESSE PRAGER/  
Examiner, Art Unit 4137

4/13/2009

/Gary Jackson/  
Supervisory Patent Examiner  
Art Unit 4137